

DRILL HOLES

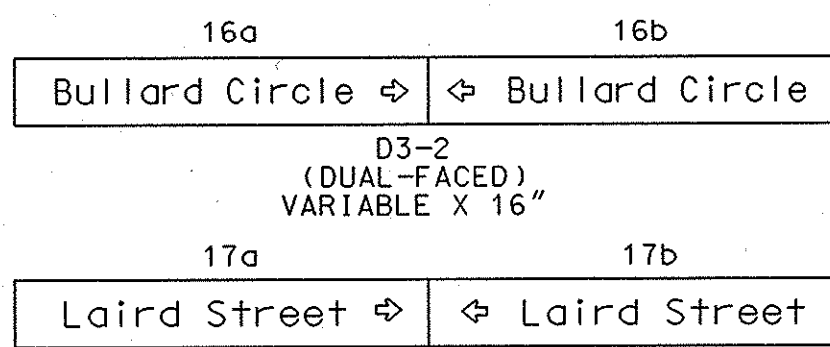
DRILL HOLES

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BORDER REV. DATE: June 1, 2004

MD 28 IS CONSIDERED TO RUN  
IN AN EAST-WEST DIRECTION.

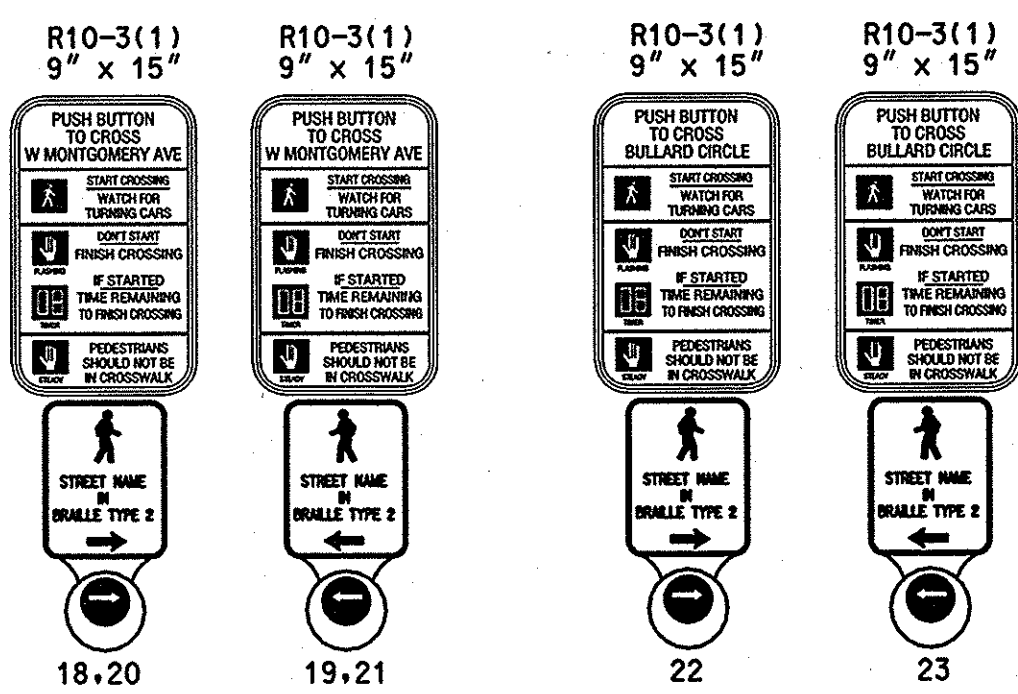
## EXISTING SIGN



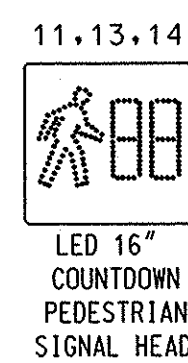
## RELOCATED SIGN



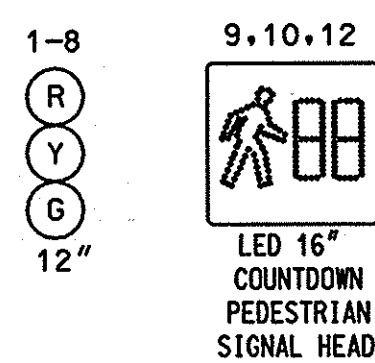
## PROPOSED SIGNS



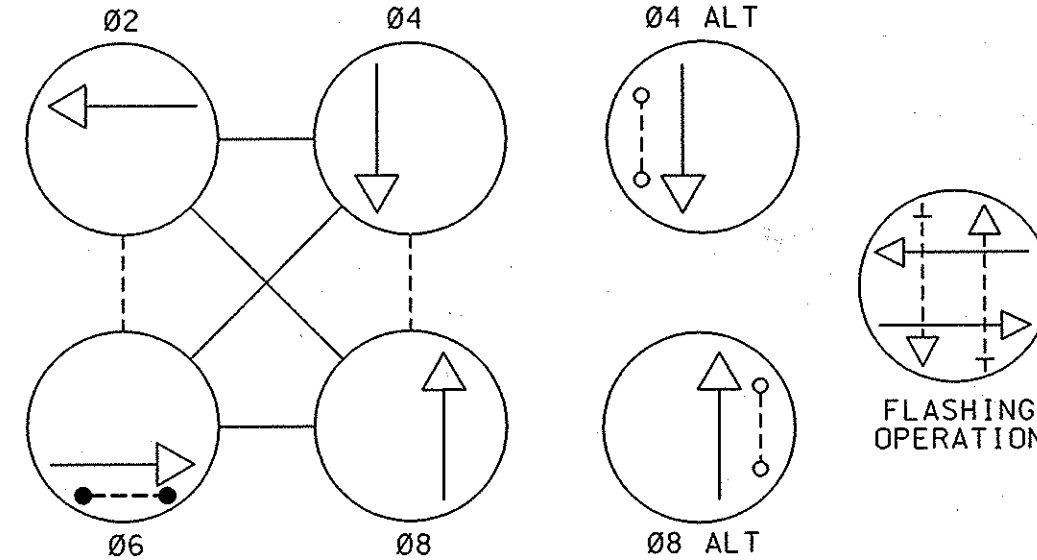
## EXISTING SIGNALS



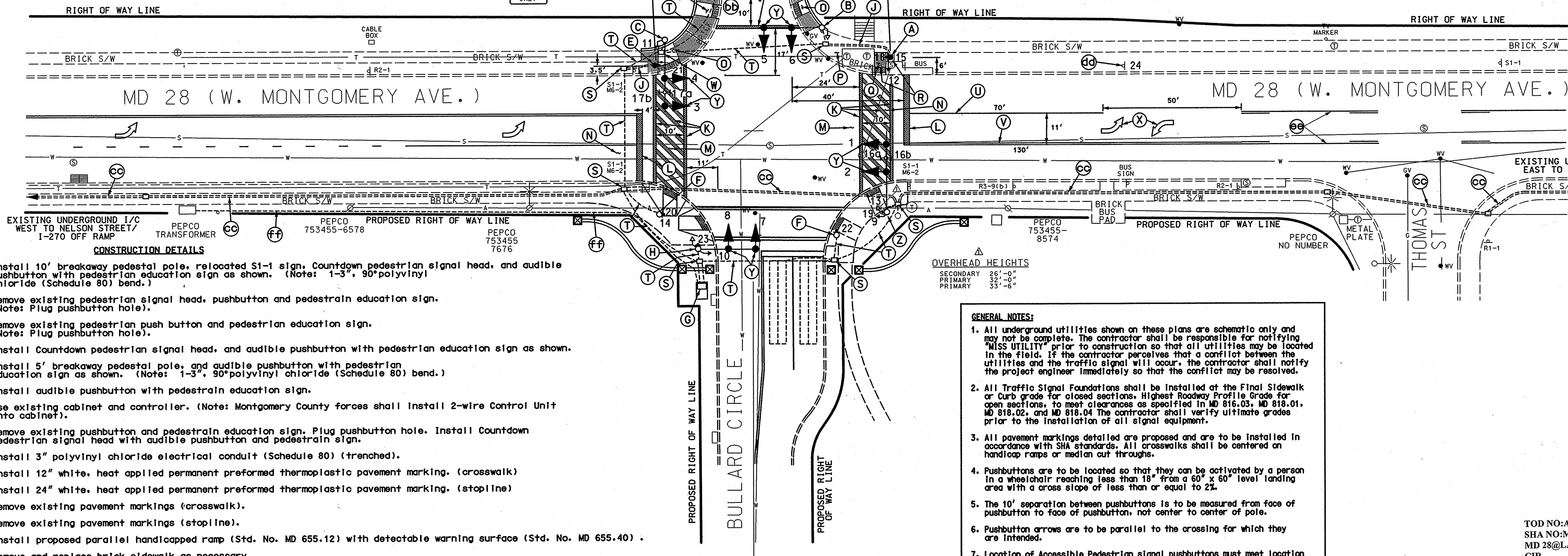
## PROPOSED LED SIGNALS



## NEMA PHASING



PHASING NOTES:  
1. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY  
2. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY



## CONSTRUCTION DETAILS

- Install 10' breakaway pedestal pole, relocated S1-1 sign, Countdown pedestrian signal head, and audible pushbutton with pedestrian education sign as shown. (Note: 1-3", 90° polyvinyl chloride (Schedule 80) bend.)
- Remove existing pedestrian signal head, pushbutton and pedestrian education sign. (Note: Plug pushbutton hole.)
- Remove existing pedestrian push button and pedestrian education sign. (Note: Plug pushbutton hole.)
- Install Countdown pedestrian signal head, and audible pushbutton with pedestrian education sign as shown.
- Install 5' breakaway pedestal pole, and audible pushbutton with pedestrian education sign as shown. (Note: 1-3", 90° polyvinyl chloride (Schedule 80) bend.)
- Install audible pushbutton with pedestrian education sign.
- Use existing cabinet and controller. (Note: Montgomery County forces shall install 2-wire Control Unit into cabinet.)
- Remove existing pushbutton and pedestrian education sign. Plug pushbutton hole. Install Countdown pedestrian signal head with audible pushbutton and pedestrian sign.
- Install 3" polyvinyl chloride electrical conduit (Schedule 80) (trenched).
- Install 12" white, heat applied permanent preformed thermoplastic pavement marking. (crosswalk)
- Install 24" white, heat applied permanent preformed thermoplastic pavement marking. (stopline)
- Remove existing pavement markings (crosswalk).
- Remove existing pavement markings (stopline).
- Install proposed parallel handicapped ramp (Std. No. MD 655.12) with detectable warning surface (Std. No. MD 655.40).
- Remove and replace brick sidewalk as necessary.
- Install handicapped ramp with curb and detectable warning surface (Std. No. MD 655.40) as shown (Note: See Inset "A").
- Relocate existing ground mounted sign as shown.
- Use existing handhole.
- Use existing conduit.
- Install 70' of 5" solid white lane.
- Install 130' of 5" double yellow thermoplastic pavement marking.
- Adjust handhole to new grade.
- Remove existing pavement marking (arrow).
- Remove existing signal head and install LED signal head in same location. (Note: Use existing wiring)
- Remove existing pushbutton and pedestrian education sign. Plug pushbutton hole. Install Countdown Pedestrian signal head and audible pushbutton with pedestrian sign.
- Install 6' x 30' loop detector encased in 1/4" flexible tubing quadrupole type (3-6-3).
- Install 1" liquid tight flexible non-metallic electrical conduit (detector wire sleeve).
- Existing Montgomery County conduits with 50-pair interconnect cable to remain.
- Install M4-6 "END" sign onto existing sign post as shown.

## CONSTRUCTION DETAILS (CONT.)

- Remove existing "TWLT" pavement marking from Laird Street 50' prior to Thomas Street.
- Existing underground electrical service by PEPCO.

## OVERHEAD HEIGHTS

SECONDARY	26'-0"
PRIMARY	35'-0"

## GENERAL NOTES:

- All underground utilities shown on these plans are schematic only and may not be complete. The contractor shall be responsible for notifying "MISS UTILITY" prior to construction so that all utilities may be located in the field. If the contractor perceives that a conflict between the utilities and the traffic signal will occur, the contractor shall notify the project engineer immediately so that the conflict may be resolved.
- All Traffic Signal Foundations shall be installed at the Final Sidewalk or Curb grade for closed sections. Highest Roadway Profile Grade for open sections, to meet clearances as specified in MD 816.03, MD 818.01, MD 818.02, and MD 818.04. The contractor shall verify ultimate grades prior to the installation of all signal equipment.
- All pavement markings detailed are proposed and are to be installed in accordance with SHA standards. All crosswalks shall be centered on handicap ramps or median cut throughs.
- Pushbuttons are to be located so that they can be activated by a person in a wheelchair reaching less than 18" from a 60" x 60" level landing area with a cross slope of less than or equal to 2%.
- The 10' separation between pushbuttons is to be measured from face of pushbutton to face of pushbutton, not center to center of pole.
- Pushbutton arrows are to be parallel to the crossing for which they are intended.
- Location of Accessible Pedestrian signal pushbuttons must meet location requirements of MUTCD Sec. 4E.09 and Fig. 4E.2 and the NCHRP publication, Accessible Pedestrian Signals: Guide to Best Practice. If not met, the Contractor is to stop work on pushbutton locations until a design Waiver is obtained, approved by the Director, Office of Traffic and Safety.
- The contractor shall remove all unused wiring.

TOD NO: AT782-85  
SHA NO: M0574ASR/BSR  
MD 28@LAIRD ST/BULLARD  
CIR

**SHA**

STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION

MD 28 (W. MONTGOMERY AVE) AND  
LAIRD ST / BULLARD CIRCLE

CITY OF ROCKVILLE

## TRAFFIC SIGNAL PLAN

SCALE 1"=20' DATE \_\_\_\_\_ CONTRACT NO. \_\_\_\_\_

DESIGNED BY J. CUTRO COUNTY MONTGOMERY

DRAWN BY \_\_\_\_\_ LOGMILE 15002821.47

CHECKED BY \_\_\_\_\_ TMS NO. E991

F.A.P. NO. \_\_\_\_\_ TOD NO. \_\_\_\_\_

TS NO. 1334B DRAWING NO. 1 OF 2 SHEET NO. OF

## GEOMETRIC LEGEND

PROPOSED \_\_\_\_\_

EXISTING \_\_\_\_\_

## LEGEND OF UNDERGROUND AND OVERHEAD UTILITIES

AERIAL CABLE	—A—A—
ELECTRIC	—E—E—
TELEPHONE	—T—T—
GAS	—G—G—
SEWER	—S—S—
WATER	—W—W—
CABLE TV	—TV—TV—



APPROVALS	REVISIONS
TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

ADD. AUDIBLE PB TO 16' 2-27-08
SHA NO. AT7825185 TMS NO. E991
RRZ
MODIFY SIGNAL DUE TO WIDENING OF BULLARD CIRCLE 10-16-07
SHA NO. B9956832 TMS NO. 11204
RRZ

PLOTTER: 404TETIMES

FILE: \$FILES\$

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